

Smartcity Development and Implementation in Romania

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Smart city

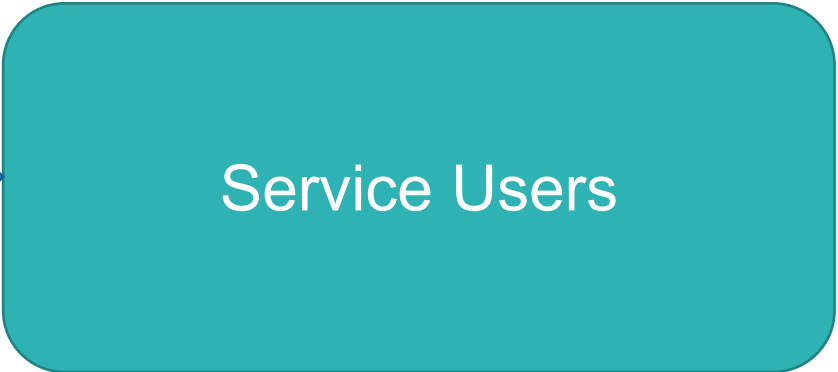
"Cities using technological solutions to improve the management and efficiency of the urban environment.", European Commission



"Effective integration of physical, digital and human systems in the built environment to deliver a sustainable, prosperous and inclusive future for its citizens", British Standards Institute

https://ec.europa.eu/info/eu-regional-and-urban-development/topics/cities-and-urban-development/city-initiatives/smart-cities_en

Smart cities



Smart cities challenges

- Increasing population: more than 50 percent of the world's population lives in cities.
- Polarized economic growth: the 600 largest global cities will contribute 65 percent of global GDP growth from 2010-2025.
- Increased greenhouse-gas emissions (GHGs): sustainable strategies for energy generation and distribution, transportation, water management, urban planning, and eco-friendly (green) buildings.
- Decreased budgets: huge budgetary constraints on cities.
- Pandemic situations: quick and flexible response to the public health.

EU regional and urban development



Priority themes for EU cities

- Air quality in cities
- Circular economy in cities
- Climate adaptation in cities
- Culture and Heritage
- Digital transition in cities
- Energy transition in cities
- Housing in cities
- Innovative and responsible public procurement in cities
- Inclusion of migrants and refugees in cities
- Jobs and skills in the local economy
- Sustainable use of land and nature-based solutions in cities
- Urban mobility and accessibility
- Urban poverty

Smart Cities Marketplace



"Marketplace of the European Innovation Partnership on Smart Cities and Communities (EIP-SCC Marketplace)"

"Smart Cities Information System (SCIS)"

The Marketplace's main areas of cross-cutting operation include:

- sustainable urban mobility
- sustainable districts and built environment
- integrated infrastructures and processes in energy, information and communication technologies and transport
- citizen focus
- policy and regulation
- integrated planning and management
- knowledge sharing
- baselines, performance indicators and metrics
- open data governance
- standards
- business models, procurement and funding

EU Related policies



- Digital single market and smart cities
- Energy and smart cities
- Sustainable transport for smart cities

- 31 July 2021 - Proposal for a European Interoperability Framework for Smart Cities and Communities (EIF4SCC) published

Smart City Areas | Pillars of Smart City

- Smart Citizen
 - Smart Living
 - Smart Mobility
 - Smart Environment
 - Smart Economy
 - Smart Governance
- Central and local public institutions
 - Private companies
 - Academic environment
 - Civil society



Cities as a hub of connectivity

Impact area for a Smart City



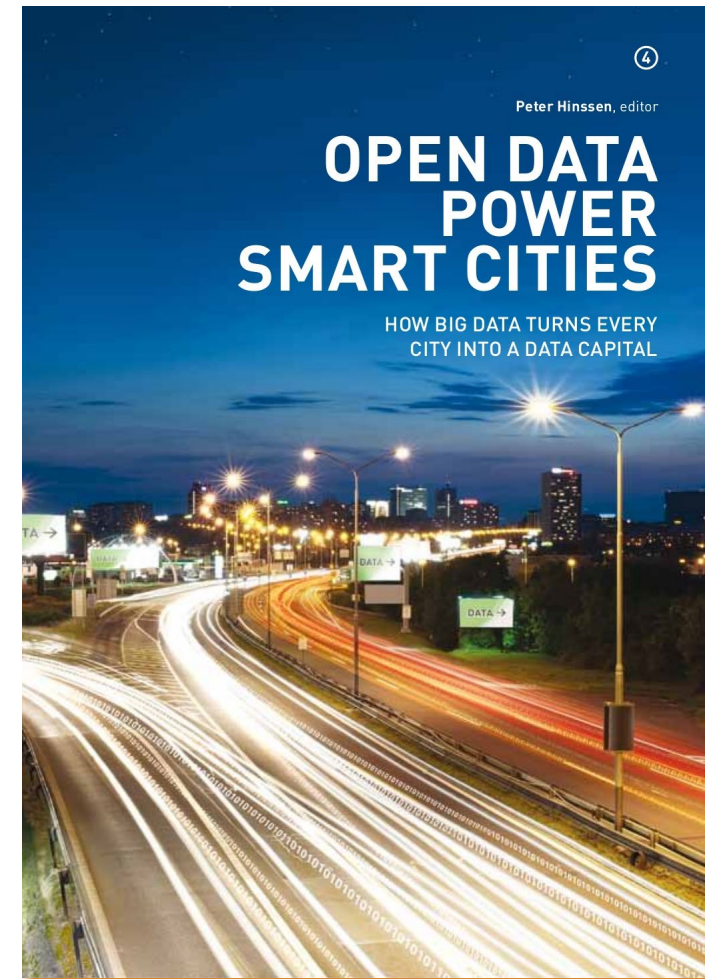


Big Data - Data providers / producers

- Social Media
- IoT (Internet of Things)
- Mobile sources
- Software Apps

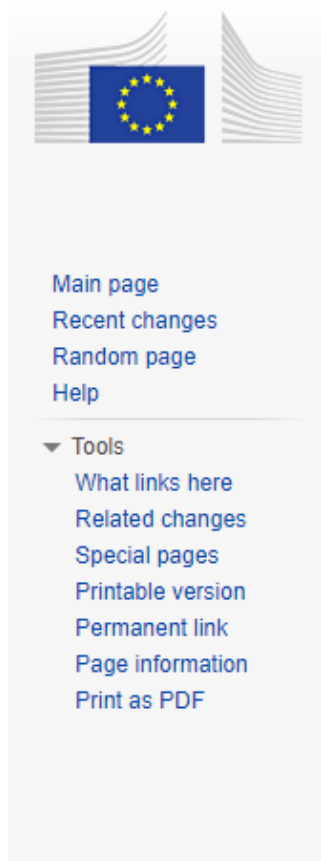
Big Data - Open Data

- **Open Data** - punerea la dispoziția publicului de date accesibile, reutilizabile și redistribuibile în mod liber, fără a ține cont de restricții de tipul drepturi de autor (copyright), patente sau alte mecanisme de control
- Open Government Partnership
[<https://www.opengovpartnership.org/countries/romania>]
- OGP Romania - Parteneriatul pentru o Guvernare Deschisa - ogp.gov.ro
[<http://ogp.gov.ro/wp-content/uploads/2014/08/Romania-2nd-Action-Plan-2014-2016.pdf>]
- Digital Single Market (Open data refers to the idea that certain data should be freely available for use and re-use.) [<https://ec.europa.eu/digital-single-market/open-data/>]



Big Data in central and local government

- ESSnet Big Data
[https://webgate.ec.europa.eu/pfis/mwikis/essnetbigdata/index.php/ESSnet_Big_Data]
- 2016-2018
- 2018-2020



The screenshot shows the top part of a MediaWiki page. At the top left is the European Union flag. Below it are navigation links: [Main page](#), [Recent changes](#), [Random page](#), and [Help](#). A 'Tools' section is expanded, showing links for [What links here](#), [Related changes](#), [Special pages](#), [Printable version](#), [Permanent link](#), [Page information](#), and [Print as PDF](#).

Page [Discussion](#)

ESSnet Big Data

ESSnet Big Data is a project within the [European statistical system \(ESS\)](#) official statistics, through pilots exploring the potential of selected big data so

ESSnet Big Data has started in February 2016 and is to run for 28 months under *Coordination and Dissemination*, support the overall project.

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- 1 General objectives
- 2 Specific objectives
 - 2.1 WP1 Webscraping job vacancies
 - 2.2 WP2 Webscraping enterprise characteristics
 - 2.3 WP3 Smart meters
 - 2.4 WP4 AIS data
 - 2.5 WP5 Mobile phone data
 - 2.6 WP6 Early estimates
 - 2.7 WP7 Multiple domains
 - 2.8 WP8 Methodology

Standards

- STANDARDS

<https://bigdata.ieee.org/standards>

https://www.iso.org/files/live/sites/isoorg/files/developing_standards/docs/n/big_data_report-jtc1.pdf

- World Council on City Data (open.dataforcities.org)

ISO 37120 - INDICATORS FOR SUSTAINABLE CITIES - 19 themes, 104 indicators

- Urban Europe Strategy 2014-2020: for Smart, Sustainable and Inclusive Communities and Cities

- Data-driven cities (pwc research)



Smart City in Romania

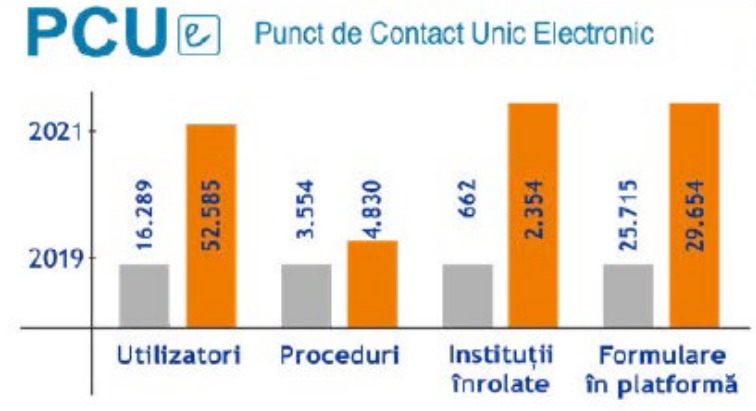
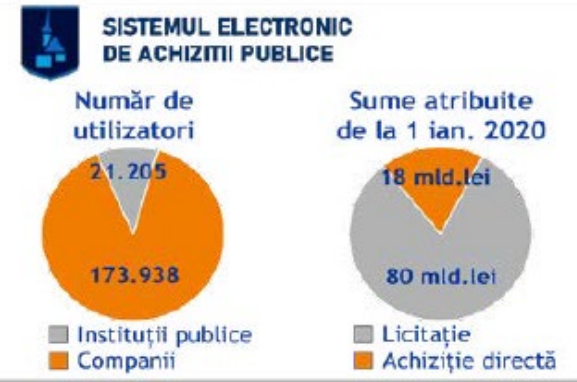
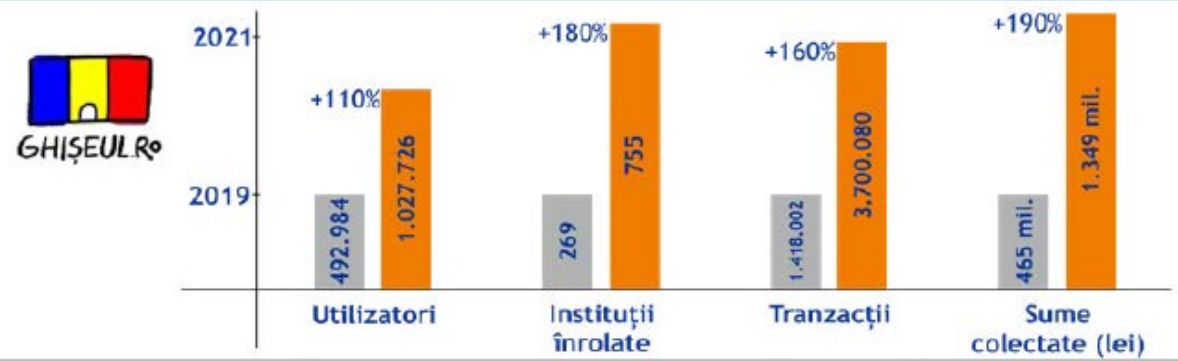
- The **Authority for the Digitalization of Romania** is an institution created in 2020 to achieve the ambitious objectives of the Romanian Government in the sphere of digital transformation of the Romanian society.
- Romanian Association for Smart City

Authority for the Digitalization of Romania

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Statistics of use of platforms managed by Authority for the Digitalization of Romania



2021 Public projects in implementation

- Centralized Software Platform for Digital Identification:
 - one account for all public services
 - authentication for all Romanian citizens for e-government services
- Public sector interoperability system:
 - interconnection of notaries public with the databases of the local directorates of taxes and fees for the Fiscal Attestation Certificate.



Barriers to the Digitalization of the public and private environment in Romania

- Lack of an efficient and effective IT architecture general management of electronic public services;
- Lack of computer systems needed by institutions central public authorities for the operationalization of public services electronics;
- Insufficient specialists in e-government and resources in the IT departments of institutions and authorities and, in correlation, the competencies required for development and maintenance of electronic public services;
- Lack of a uniform and efficient legislative and procedural framework to support electronic public services.

Digital barriers in the private sector

In the private sector, digital barriers are primarily related of human capital:

- Low digital skills of the workforce;
- Digital skills specific to company management, often absent in the area of SMEs;
- Number of IT specialists available for the SME area.

Romanian Association for Smart City



- 5 years of continuous activity for the creation and the development of the Smart City Industry in Romania
- +260 active partners in the association – institutions public (ministries, town halls and county councils), companies, universities, institutes and centers research
- Vision: creating a strong nation, innovative, sustainably developed, digitally educated, with citizens involved and accessible to all
- Mission: creation and development of the Smart Industry City in Romania and a network of communities creative and intelligent
- New projects: **City Air** and **Kit Smart Village**

Romanian Association for Smart City



CLUSTERUL SMART CITY	CENTRUL PENTRU CERCETARE ȘI EDUCAȚIE URBANĂ	ACADEMIA SMART CITY	HARTA PROIECTELOR SMART CITY
WEBINAR SMART CITY	REVISTA SMART CITY MAGAZINE	CARAVANA SMART CITY	STANDARDE SMART CITY
PLATFORMA SMART CITY ROMÂNIA	ACADEMIA PRIMARILOR	CARTA ROMÂNIA 2030	CARTEA SMART CITIES - DE LA IDEE LA IMPLEMENTARE

<https://map.romaniansmartcity.ro/>



> 300 smart cities projects in Romania

Figures about Romania

DESI = The Digital Economy and Society Index is a composite index that captures relevant indicators of Europe's digital performance and tracks the evolution of EU Member States in terms of digital competitiveness.

- According to the European Commission's report, Romania has the best results in the Connectivity dimension, due to the high use of very high speed broadband and the wide availability of
- very high capacity fixed networks, especially in urban areas. 49% of homes in Romania are subscribed to very high speed broadband services (at least 100 Mbps), making Romania ranked 5th in the EU. However, the digitalization of the economy has lagged behind, given that almost a fifth of Romanians have never used the Internet and less than a third have at least basic digital skills.
- Romania is well positioned in terms of ICT graduates, ranking fifth, with 5.6% of all graduates (EU average: 3.6%); however, in terms of digital public services and the use of internet services, Romania's performance is the lowest among EU member states.
- Romania ranks 11th in terms of connectivity. In 2019, Romania improved its results for coverage, but stagnated in the use category. In particular, high-speed broadband coverage has increased to 82%, but is still behind most Member States (EU average is 86%).

Thank you!

- Ciprian Alexandru - alexcipro@gmail.com